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09/738,099	12/15/2000	Samuel Alan Meddaugh	LMCO.04PA	9675

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EXAMINER

MA, JOHNNY

ART UNIT PAPER NUMBER

2623

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/738,099	<b>Applicant(s)</b> MEDDAUGH ET AL.	
	<b>Examiner</b> Johnny Ma	<b>Art Unit</b> 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-10 and 13-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-10 and 13-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-2, 5-10, and 13-18 have been considered but are moot in view of the new ground(s) of rejection.

It is noted that Applicant argues "there is no apparent mention in the cited teachings of the compression level being selectable" (see Remarks, pg. 8, 2<sup>nd</sup> Paragraph). The examiner respectfully disagrees. As discussed below, the Seeley et al. reference teaches that the compression (taking place in video compressor 50) is of a required compression requisite [col. 12, line 51] wherein "[o]nce established, video images are continuously compressed and related to the system control...with as good a quality as is permissible by the communication bandwidth and the requisite compression required. Also note that the frame rate of the receiving cameras can be controlled and adjusted by the user [col. 10, lines 44-47]. The Seeley et al. and Walker combination as discussed in the rejection of claim 1 teaching a plurality of compression levels including half. Thus the Seeley et al. and Walker combination teaches selectable compression levels to match available communication bandwidth and the requisite compression required.

Applicant further argues "no evidence is presented to indicate any circumstances or desirability for modifying the Seeley-Filor combination" (see Remarks, pg. 10, Paragraph 2). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

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USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, the knowledge generally available to one of ordinary skill in the art, in order to provide for standard OSD (on screen display) and CC functionality in a more enhanced system.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 5, 13-14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seeley et al (USP 6,097,429 of record) in further view of Filor et al (USP 5,844,609 of record), Walker (US 6,222,881 B1), and Elswick et al. (US 6,791,620 B1).

Regarding claim 1, the claimed “circuit arrangement for providing a video signal to a video display from a selectable subset of a plurality of digital video data carried on a plurality of video data channels, wherein the digital video data is generated from video signals from a plurality of video sources, and each video channel selectably carries either color or monochrome video data” is met as follows:

- The claimed “processor configured and arranged to interpret display commands” is met by the Site Control Unit (SCU) 12, which can be controlled by the operator located remotely to view the images and video signals from the multiple cameras [col. 9, lines 17-40].

- The claimed “selector circuit coupled to the processor and having a plurality of output ports and input ports arranged for connection to the plurality of video data channels, the selector circuit configured and arranged to select digital video data received at a first data rate from a subset of the channels responsive to an input selection signal from the processor and provide selected digital video data at the output ports at a second data rate[...]
- ” is met by the video acquisition unit 24 which is present in the SCU 12. The SCU can function to select a camera 22 from which to observe a scene. The SCU and the acquisition unit 24 have multiple inputs (pictured by the multiple cameras 22 at the Customer Premises [Fig. 1] being interfaced to the SCU 12 [col. 9, lines 52-62]) and have multiple outputs in the form of a bus connection in the SCU [Fig. 7]. The bus connection functions to receive multiple video images obtained from video acquisition unit 24 and MUX 26 and send those video images to the Image Processor 30 and Video processor 38 [Fig. 7]. Note, the Seeley et al. reference teaches that the SCU can provide video images to a workstation 106 at the central station for viewing by the operator (Seeley 12:29-33) wherein the SCU 12 compresses the frames received from the cameras 22 prior to transmission to the central station (Seeley 13:44-51). Further note the Seeley et al. reference further teaches “[o]nce established, video images are continuously compressed and relayed to the system control. This done with minimum latency, at a fast frame rate, and with as good a quality as is permissible by the communication channel bandwidth and the requisite compression required” (Seeley 12:47-51). However, the Seeley et al. reference

does not specifically teach the claimed “selected digital video data at the output ports at a second data rate] that is half the first data rate.” Now note the Walker reference that teaches a method of video compression wherein the claimed “that is half the first data rate” is met by “[t]hese quantization tables are used to quantize both the DCT coefficients for interblocks. The quantization tables were designed such that the finest quantization (i.e., Table 15) is at the level of visual perception and the i.e., Table 0) produces encoded signals at half the target bit rate” (Walker 37:60-67). Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Seeley et al. SCU compression with the Walker compression levels including half the first data rate for the purpose of providing a plurality of compression levels for the system to utilize in order to match available bandwidth and compression requisite attributes. Also note that according to figure 6, this system could utilize a plurality of SCUs and therefore a plurality of all of the parts of the SCU [col. 9, lines 44-47].

- The claimed “plurality of data routers, each having an output port and an input port coupled to a respective one of the output ports of the selector circuit, and each data router configured and arranged to convert input video data from YCrCb format to RGB format” are met by each of the Video processors 38 in each of the plurality of SCUs (discussed above). Each Video Processor 38 can process the video information received from the image acquisition unit 24 and route it to its corresponding Terminal Adapter 20 via Video Out 46. The fact that the routers

are configured to convert the video data from YCrCb format to RGB format is not expressly disclosed by Seeley and will be discussed with regards to Filor below.

- The claimed “wherein the video data is logically segmented into frames of pixel data, and the data routers are configurable for operation in a first mode or a second mode, wherein a single data router processes video data from a single channel of video data while operating in the first mode, and in the second mode a first data router processes a first half of the pixel data of a frame and a second data router processes a second half of the pixel data of the frame” is not expressly disclosed in the Seeley or Filor references. The first mode is disclosed in the Seeley reference, wherein the single data router (the single Video Processor 38) processes the received video data from a single channel (as previously discussed with reference to rejected claim 1). The second mode, however, is not disclosed. Now note the Elswick et al. reference that teaches multi-format video processing wherein “it would be possible...to capture and convert all frames from an input video signal in real-time using multiple parallel processors functioning parallel (Elswick 17:15-47). Therefore, the Examiner submits that it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to include a parallel processing option, as taught by the Elswick et al. reference, for processing the video information in the Seeley reference, in order to alleviate some of the burden on one processor in the server and to evenly distribute and segment video information over multiple processes for parallel processing and for the further purpose of providing real time processing of video information in

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circumstances where a single processor cannot perform the processing in real-time.

- The claimed “video data sequencer coupled to the output ports of the data router, the sequencer configured and arranged to merge the selected video data into frames of video data” is met by the Video Compression 50 and Compressed Video Buffers 51 in the Video Processor 38. Before output, the video processor 38 (meeting the claimed data router) splits the input video into frames for processing and transmission over the ISDN line to the Central Station.
- The claimed “digital-to-analog converter coupled to the video data sequencer, the converter configured and arranged to generate an analog video signal from the frames of video data” is not explicitly met by the Seeley reference. The Seeley reference does, however, teach the ability to process and use digital and analog video within the system [col. 10, lines 1-5]. It is therefore inherent that if the system uses and transmits compressed digital video, that it must then be converted to an analog signal before it is to be output at the workstation 106.

As mentioned above, the Seeley reference does not disclose the YCrCb to RGB format conversion within the data routers (Video Processors 38). Filor et al disclose a system that utilizes a CSC (color space conversion) from YCrCb to RGB for further processing of the video image [col. 14, lines 5-15]. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the conversion from YCrCb to RGB into the Video Processor, in order to allow for further processing (as the Video Processor name implies) of the video signal and for more



advanced options for customizing and processing the displayed signal because RGB is the most common color space viewed on computer displays and RGB monitors produce sharper and cleaner images than those produced by composite monitors.

Regarding claim 2, the claimed “apparatus of claim 1, wherein each data router is configurable to compress the input video data at selectable compression level” is met by the fact that the compression (taking place in video compressor 50) is of a required compression requisite [col. 12, line 51]. Also note that the frame rate of the receiving cameras can be controlled and adjusted by the user [col. 10, lines 44-47]. Also note the Seeley et al. and Walker combination as discussed in the rejection of claim 1 teaching a plurality of compression levels including half.

Regarding claim 5, the claimed “circuit arrangement of claim 1, wherein the circuit arrangement is supported on a circuit board having connectors arranged for connecting to the video channels” is not explicitly met by the Seeley reference. Nowhere in the reference is it stated that the “circuit arrangement” of the SCU is on a circuit board, though, it is mentioned many times that signals and standard computer chips and software are utilized (as would be the case in any circuit board). However, it can be understood and is therefore submitted as OFFICIAL NOTICE that it is notoriously well known in the art to provide operational units (in this case, the SCU) on circuit boards, for easy addition to existing systems and for easy use when installing and utilizing in a system. Therefore, the Examiner submits that it would have clearly obvious to one of ordinary skill in the art at the time of the invention to utilize a circuit board to implement the SCU, in order to implement the functionality of the system on one, complete board to be used in installing a new system or expanding a current system.

Regarding method claim 13, see the above rejection for claim 1.

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Regarding claim 14, the claimed “method of claim 13, further comprising compressing the video data at a selectable compression level responsive to the display commands” is met by the fact that the compression (taking place in video compressor 50) is of a required compression requisite [col. 12, line 51]. Also note that the frame rate of the receiving cameras can be controlled and adjusted by the user [col. 10, lines 44-47]. Also note the Seeley et al. and Walker combination as discussed in the rejection of claim 1 teaching a plurality of compression levels including half.

Regarding apparatus claim 18, see the above rejection for claim 1.

4. Claims 6-10 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seeley et al (USP 6,097,429), cited by Examiner, in view of Filor et al (USP 5,844,609), cited previously by Examiner, in further view of Voit et al (USP 5,751,707), cited by Examiner.

Regarding claims 6-9, the Seeley and Filor references meet all of that which is discussed above with regards to claim 1. Neither reference teaches the circuit arrangement having a first memory for storage of graphics data to be overlaid on the video data, the second memory coupled to the sequencer and arranged for storage of the video data, or the pixel selector having input ports coupled to the first memory and to the second memory and an output port coupled to the digital-to-analog converter, wherein the pixel selector is configured and arranged to select graphics data from the first memory when graphics data is present. Nor do they teach a third memory for storing priority graphics data as referenced in claim 7, the pixel output controller as discussed in claim 8, or the blink-translation circuit as referenced in claim 9. The Voit reference, however, does teach a way to manipulate different planes of video data (up to 5 different planes

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with 5 different sections in memory), including overlay data, background data, and video data using a video RAM and an overlay controller [col. 33, line 47 – col. 34, line 9]. The overlay controller combines the planes of data to arrive as the final video signal for display on the display device. Furthermore, “[w]hen received video frames are combined with text and/or graphics, the composite video frames include the uncompressed received video frames with selected pixels [input pixel value] thereof replaced with graphics or textual data display pixels [configurable pixel value] specified by the graphics overlay controller 133” (Voit 34:17-24) wherein this replacement of pixel values is performed at a “configurable interval” as a consequence of the presence of text and/or graphics which is inherently present at a configurable interval. The discussion of the overlay information being overlaid on the video data meets the claimed invention of claims 6-9. Therefore, the Examiner submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include this overlay functionality into the workstation of Seeley, in order to provide for standard OSD and CC functionality in a more enhanced system. Most standard OSD generators use this type or setup and are very common throughout video display systems. Note the Voit reference teaches “[t]he graphics overlay controller 133 and the video Ram 135 actually cooperate to manipulate five different places of video information” (Voit 33:66-34:1). However, the Voit reference is silent as to prioritization, Nevertheless, the examiner gives Official Notice that it is notoriously well known in the art to prioritize elements of a process in the case of conflicting resource needs for the purpose of ensuring that at least the most important elements are successfully processed. Therefore, the examiner submits that it would have been obvious to one of ordinary skill in the

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art at the time the invention was made to further modify the Seeley and Voit et al. graphics data accordingly for the above stated advantages.

Regarding claim 10, the claimed “method of claim 6, wherein each data router is configurable to compress the input video data at selectable compression level” is met by the fact that the compression (taking place in video compressor 50) is of a required compression requisite [col. 12, line 51]. Also note that the frame rate of the receiving cameras can be controlled and adjusted by the user [col. 10, lines 44-47].

Regarding claim 14-17, see the above rejection to claims 6-9.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnny Ma whose telephone number is (571) 272-7351. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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